

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 22 February 2001 (22.02.01)	
International application No. PCT/GB00/02624	Applicant's or agent's file reference KWN/1100.01/C
International filing date (day/month/year) 07 July 2000 (07.07.00)	Priority date (day/month/year) 09 July 1999 (09.07.99)
Applicant COLE, Michael	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 18 December 2000 (18.12.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Pascal Piriou Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference KWN/ 1100.01/C	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/GB 00/ 02624	International filing date (day/month/year) 07/07/2000	(Earliest) Priority Date (day/month/year) 09/07/1999
Applicant GENEVAC LTD. et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of Invention is lacking** (see Box II).

4. With regard to the title,

- ☐ the text is approved as submitted by the applicant.
- ☒ the text has been established by this Authority to read as follows:

CENTRIFUGAL SAMPLE EVAPORATOR WITH DIRECT-HEAT SHIELD AND UNIFORM HEATING

5. With regard to the abstract,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

- ☒ as suggested by the applicant.
- ☐ because the applicant failed to suggest a figure.
- ☐ because this figure better characterizes the invention.
- 6 ☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No.

T/GB 00/02624

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N1/40 //B01D1/30, B01D1/00, B04B15/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N B01D B01L B04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 226 669 A (VILARDI FRANK) 7 October 1980 (1980-10-07) column 1, line 5 -column 1, line 21 column 1, line 41 -column 2, line 12 column 2, line 49 -column 2, line 53 column 3, line 7 -column 3, line 60 column 4, line 60 -column 5, line 24 figures 1-6	1-3, 5, 7, 11, 12
A	US 5 217 572 A (GUY JEAN L ET AL) 8 June 1993 (1993-06-08) column 1, line 9 -column 1, line 31 column 2, line 15 -column 2, line 18 column 4, line 52 -column 4, line 62 column 5, line 62 -column 6, line 12 figures 1-5 -/-	1, 5, 7, 9, 12, 13

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

18 October 2000

Date of mailing of the international search report

26/10/2000

Name and mailing address of the ISA

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Authorized officer

Koch, A

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 00/02624

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 42 14 866 C (GEBR. LIEBISCH) 22 July 1993 (1993-07-22) page 1, line 3 -page 1, line 28 page 2, line 22 -page 2, line 62 page 3, line 4 -page 3, line 21 page 3, line 61 -page 4, line 31 figure 1 abstract ---	1,4,6,9, 12
A	US 5 431 620 A (SCHENCK ALAN L ET AL) 11 July 1995 (1995-07-11) column 1, line 8 -column 1, line 53 column 2, line 56 -column 3, line 17 column 4, line 8 -column 4, line 16 column 4, line 27 -column 4, line 48 column 7, line 23 -column 7, line 67 figures 1,2 ---	1,5,7,9, 11
A	EP 0 141 533 A (PALL CORP) 15 May 1985 (1985-05-15) page 6, line 1 -page 7, line 14 figure 2 -----	8

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

CT/GB 00/02624

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4226669	A	07-10-1980	NONE	
US 5217572	A	08-06-1993	FR 2644356 A	21-09-1990
			CH 682458 A	30-09-1993
			DE 4008945 A	27-09-1990
			GB 2230203 A,B	17-10-1990
			IT 1240608 B	17-12-1993
			US 5084133 A	28-01-1992
DE 4214866	C	22-07-1993	NONE	
US 5431620	A	11-07-1995	EP 0719179 A	03-07-1996
			JP 9502659 T	18-03-1997
			WO 9601695 A	25-01-1996
EP 0141533	A	15-05-1985	AT 56368 T	15-09-1990
			AU 3365884 A	18-04-1985
			CA 1215931 A	30-12-1986
			CH 662286 A	30-09-1987
			DE 3483197 D	18-10-1990
			DK 474484 A	04-04-1985
			FI 843887 A	04-04-1985
			FR 2552676 A	05-04-1985
			GB 2148139 A,B	30-05-1985
			IN 162484 A	04-06-1988
			JP 1691537 C	27-08-1992
			JP 3053962 B	16-08-1991
			JP 60097006 A	30-05-1985
			NO 843960 A,B,	09-04-1985
			PT 79305 A,B	01-11-1984
			US 4604109 A	05-08-1986
			ZA 8407748 A	29-05-1985

PATENT COOPERATION TREATY

PCT

REC'D 25 OCT 2001

WIPO PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference KWN/ADB/C1100.01/C	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB00/02624	International filing date (day/month/year) 07/07/2000	Priority date (day/month/year) 09/07/1999
International Patent Classification (IPC) or national classification and IPC G01N1/40		
Applicant GENEVAC LTD. et al.		



1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 9 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 18/12/2000	Date of completion of this report 23.10.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Feldhoff, R Telephone No. +49 89 2399 2186 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/02624

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-9 as originally filed

Claims, No.:

1-15 as originally filed

Drawings, sheets:

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB00/02624

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 14, 15.

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 14, 15 are so unclear that no meaningful opinion could be formed (*specify*):
see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Yes: Claims 2-13

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/02624

	No:	Claims	1
Inventive step (IS)	Yes:	Claims	
	No:	Claims	2-13
Industrial applicability (IA)	Yes:	Claims	1-13
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB00/02624

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

Severe Lack of Clarity of claims 14 and 15.; Article 6 PCT

The application does not meet the requirements of Article 6 PCT, because claims 14 and 15 do not contain any technical features and are thus not clear.

It is, therefore, not possible to examine these claims.

Claims 14 and 15 contain references to the description and the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Prior Art Documents

The following document cited in the search report is referred to in this communication:

D1: DE-A-42 14 866

D2: US-A-5 431 620

D3: US-A-5 217 572

The subject-matter of independent claim 1 is not novel; Article 33(2) PCT

Document **D3** discloses the features of claim 1 (see e. g. abstract, col. 3, l. 1-11; col. 4, l. 22 - col. 6, l. 61 and fig. 1): sample holder (20) is used in a centrifugal evaporator; heating means (38); sample holder (20) is formed from a material having high thermal conductivity (see Item VIII); containers (24, 25); no difference over **D3** can be seen in the feature that the containers can not receive radiant heat directly from the heating means because also the set-ups shown in figures 2, 5 and 6 of the present application allow radiant heat from the heating means to be directly transmitted to the sample holders (see also Item VIII).

Therefore, the subject-matter of claim 1 is not novel; Article 33(2) PCT.

The subject-matter of claim 1 is further not novel over **D2**:

Document **D2** discloses the features of claim 1 (see e. g. abstract, col. 1, l. 17-19; col. 4, l. 8-11 and fig. 1): the sample holder (16) is obviously suitable for use in centrifugal evaporators (the lid 22 is not regarded as being part of the sample holder; the fact that the containers (18, 20) of fig. 1 are sealed with stoppers has no effect on the suitability of sample holder (16) for use in centrifugal evaporators); heating means (heat is generated by the drive motor (12) and transferred to the rotor (16) via the drive shaft (14), consequently the motor acts as a heating means; col. 1, l. 17-19 and col. 3, l. 12-16); sample holder (16) formed from a material having high thermal conductivity (see Item VIII); the containers (18, 20) can not receive radiant heat directly from the heating means (12) because they are shielded by the rotor (16).

Independent claim 12 does not contain inventive subject-matter; Article 33(3) PCT

The present application does not meet the requirements of Article 33(3) PCT because the subject-matter of independent claim 12 does not involve an inventive step in the sense of Rule 65 PCT:

Document **D2** discloses method steps of "mounting samples in good thermal contact (see Item VIII) with a mass of high thermal conductivity material forming a sample holder and supplying energy to heat the sample holder and in turn the samples, wherein the sample holder (16) shields the samples from direct heat energy (generated by motor (12); see e. g. col. 1, l. 17-19), whereby the samples receive no heat directly, but only via the mass of high thermal conductivity material forming the sample holder" (see e. g. abstract, col. 1, l. 17-19; col. 4, l. 8-11 and fig. 1).

Independent claim 12 differs from this disclosure in that it claims "a method of heating samples in a centrifugal evaporator to assist in evaporating solvent therefrom and leave dry residue material, previously dissolved in the solvent".

The problem to be solved by the present invention may therefore be regarded as how to provide "a new application for a sample holder (or a sample mounting method) as described in D2".

Document **D3**, however, discloses "a method of heating samples in a centrifugal evaporator to assist in evaporating solvent therefrom and leave dry residue material, previously dissolved in the solvent".

It would be obvious to a man skilled in the art that the sample holder (or the sample

mounting method) as described in **D2** can be applied in the method disclosed in **D3**. He would thus combine the features of **D2** and **D3**. As a consequence, he would arrive at the claimed invention without using inventive ability.

Claim 12 thus does not involve an inventive step as required by Article 33(3) and Rule 65 PCT.

Independent claim 13 does not contain inventive subject-matter; Article 33(3) PCT

The present application does not meet the requirements of Article 33(3) PCT because the subject-matter of independent claim 13 does not involve an inventive step in the sense of Rule 65 PCT:

Document **D1**. (see e. g. abstract, col. 3, l. 61 - col. 4, l. 31 and fig. 1) discloses a method of preventing early to dry samples from overheating as energy is supplied to evaporate solvent in other samples, in which the sample containers (13) are located in a sample holder (12) comprising a mass of highly thermally conductive material, and the temperature of the latter is monitored (col. 4, l. 29) and the heat energy is reduced or cut off if the temperature of the holder rises above a predetermined volume.

Independent claim 13 differs from this disclosure in that it claims that "temperature gradients within the assembly are minimised and the existence of liquid in samples which are still evaporating prevents dried sample material from reaching a temperature at which damage occur to the material, and wherein the sample containers are shielded from direct heat energy by the sample holder material".

The problem to be solved by the present invention may therefore be regarded as how to provide "a more efficient method of preventing early to dry samples from overheating".

Document **D2**, however, discloses a type of sample holder suitable for use in a (centrifugal) evaporator. This sample holder of **D2** (16, 22) apparently provides the technical effects as stated in the above-mentioned differences of claim 13 over **D1**.

It would, further, be obvious to a man skilled in the art that the type of sample holder disclosed in **D2** can also be used within the method of **D1**. The skilled person would, therefore, include the sample holder of **D2** in the method of **D1** and thus arrive at the claimed invention without using inventive ability.

Claim 13 thus does not involve an inventive step as required by Article 33(3) and Rule 65 PCT.

Lack of Inventive Step of dependent Claims 2-11; Article 33(3) PCT

Dependent claims 2-11 do not appear to contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of inventive step in the sense of Article 33(3) and Rule 65 PCT:

Claim 2: see e. g. D1, fig. 1 (12); D2, fig. 1 (16).

Claim 4: see e. g. D1, fig. 1 (12) D2, fig. 1 (16); D3, fig. 1 (9).

Claim 5: see e. g. D1, fig. 1 (12, 13) D2, fig. 1 (16, 18); D3, fig. 1 (9, 24, 25).

Claim 7: see e. g. D2, fig. 1 (18); D3, fig. 1 (24, 25).

Claim 9: see e. g. D3, fig. 1 (38), col. 1, l. 23 and col. 2, l. 15-18.

Claim 11: see e. g. D3, fig. 1 (9) and abstract.

The remaining dependent claims seem to contain merely usual technical measures which a technical expert would apply without using inventive ability.

Re Item VII

Certain defects in the international application

Independent claims 1, 12 and 13 are not in the two-part form, which in the present case would be appropriate, with those features known in combination from the prior art being placed in the preamble and with the remaining features being included in the characterising part; Rule 6.3 b) PCT and PCT Guidelines III-2.2 and 2.3.

The claims do not contain reference signs in parentheses; Rule 6.2 b) PCT.

Re Item VIII

Certain observations on the international application

Lack of Clarity; Article 6 PCT

The application does not meet the requirements of Article 6 PCT because of the following clarity objections:

Claims 1, 2, 12 and 13: "high thermal conductivity/highly thermal conductive"; vague.

Consequently, every material can be regarded as having this property.

Claim 1: "so that ..."; this feature is incomplete because it attempts to define the subject-matter for which protection is sought exclusively in terms of a result to be achieved. It would have been necessary to additionally mention the technical features used for achieving this result (e. g. by "shielding"; see p. 6, l. 1); PCT Guidelines III 4.7.

Claim 1: the feature that the containers can not receive radiant heat directly from the heating means seems to be incorrect because also the set-up shown in figures 2, 5 and 6 of the present application allows radiant heat from the heating means to be directly transmitted to the sample holders.

Claims 8, 12: "good thermal contact"; vague. Consequently, every thermal contact can be regarded as being a good thermal contact.

Claims 12 and 13: in order to make clear how the samples are shielded "from direct heat energy" it should probably have been mentioned that the heat is transported by "radiation" (p. 7, l. 12).

It could, further, have been useful to specify (or to give preferences for) the type of heat sources that can be used (see the last line on page 7 and the first line on page 8). This applies also to claim 1.

Claim 13: it is unclear by which measure the "temperature gradients within the assembly are minimised". What is exactly meant by the "assembly"?

Lack of Conciseness of independent claims 12 and 13; Article 6 PCT

The presence of a plurality of independent method claims (claims 12 and 13) of varying scope and including features repeated using only slightly different terminology results in a general lack of conciseness in the claims; Article 6 PCT and Rule 6.1a PCT.

Moreover, lack of clarity of the claims as a whole arises, since the plurality of independent claims makes it difficult, if not impossible, to determine the matter for which protection is sought, thus placing an undue burden on others seeking to establish the extent of the protection. There may also be lack of unity of invention of these claims. This has not been raised at present in view of the general lack of clarity and conciseness, as it is assumed that amendment to overcome this objection would probably also overcome any lack of unity.

It is not appropriate in the present case that the application contain more than **one** independent claim in each category; PCT Guidelines III-5.1.